REMARKS

Applicants acknowledge that this application is currently under final rejection. Accordingly, a Request for Continued Examination has been submitted concurrently herewith, and further examination of this application based on the foregoing amendment is respectfully requested.

Claims 1-3, 5, 6,8 and 9 are currently pending in this application, Claims 4 and 7 having been cancelled by the foregoing amendment. Accordingly, the rejection of Claim 7 as set forth in paragraphs 13-17 has been rendered moot.

Claims 1 and 4-9 have been rejected under 35 U.S.C. § 103(a) as unpatentable over Yimam ("*Expert Finding Systems for Organizations: Domain Analysis and the Demoir Approach*") in view of Liddy et al (U.S. Patent No. 5,963,940). In addition, Claims 2 and 3 have been rejected under 35 U.S.C. § 103(a) as unpatentable over the same two references, and further in view of Paik et al ("*Applying Natural Language Processing (NLP) Based Metadata Extraction to Automatically Acquire User Preferences*"). However, for the reasons set forth hereinafter, Applicants respectfully submit that all claims which remain of record in this application distinguish over the cited references, whether considered separately or in combination.

Prior art expert finding systems have employed analysis of e-mails using statistical methods. However, these prior systems suffered from various disadvantages. For example, counting keywords, which is one method used, is not an adequate indicator of expertise. In such systems the semantic meanings of keywords, not understood (non-relevant) information may be retrieved. Moreover, it is difficult to distinguish questions from answers, so that the two are given equal weighting, even though a questioner may have no expertise in the field, leading to confusion.

The invention provides a different method of creating user profiles and expert rankings providing more meaningful user profiles, and is based on analyzing the linguistic structure of selected extracts from a set of documents. More specifically, the linguistic structure of the extracts are analyzed by:

1) isolating verbs in the extracts to create a set of verbs for classification;

2) classifying each isolated verb according to a predetermined hierarchy;

3) using the analysis to rank the creators.

The invention thus provides a far more accurate and realistic method of assessing experts than a simple statistical analysis. This is explained in more detail on page 4, line 15, page 5, line 8 and on page 8, lines 3-31. As stated on

page 8, lines 23, 27, the decision regarding the level of user expertise is made according to the defined hierarchies of the verbs initially provided by Speech Act Theory ("SAT"), which provides the categories of illocutionary verbs (*i.e.*, assertive, commissive, directive, declarative, and expressive).

Applicants have previously addressed the Yimam and Liddy references in the remarks that accompanied the amendment submitted October 16, 2006, which are incorporated by reference herein. However, without detracting or in anyway modifying those previous comments, the following further comments are provided regarding these references.

The Yimam publication is directed largely to a review of expert finding systems. In Figure 1, it shows expert finding systems in the context of using an expert finding system in various applications such as knowledge management, Yimam employs a domain analysis to classify existing systems, as shown in Table 1, and proceeds to describe his approach regarding the DEMOIR server as shown in Figure 2. The DEMOIR server is described only briefly, but appears to aim at a flexible system that can handle various types of input information and can analyze it in various ways. As stated in page 14, a component of the system "Source type identifier" analyses hints in documents structure (and semantics). This is the closest that Yimam comes to any description of analyzing documents on the basis of semantics.

Thus, in summary, Yimam presents essentially an overview of existing systems, together with an overview of his proposed system, but fails to teach or suggest the specific method of the present invention.

Liddy, on the other hand, discloses a system for representing queries and documents using natural language processing (NLP) techniques. After processing a query, the system displays query information to the user in an alternative representation designed to facilitate database searching. A query is processed by various techniques, which are shown generally in Figure 3 and are described in Columns 8 to 16. Various processing techniques that are implemented include a Part-of-Speech Tagger, a Subject Field Coder, a Proper Noun Categorizer, a Complex Nominal Detector, a Single Term Detector, a Text Structurer and a Term Indexer. The Text Structurer is described in Column 12, lines 39 onwards and operates according to a text discourse algorithm to determine an overall structure of the document in order to determine the type of document and further general information as set forth in Table 2 in Column 13.

Paragraph 20 of the Office Action states that Yimam discloses three separate features of Claim 1, namely creating a subset of documents, selecting extracts from the subset of documents, and using the analysis to rank the creators. Applicants note, however, that Table 1 is no more than a general assembly of features that have been or may be used in expert finding systems. It does not disclose a specific expert finding system which includes all of the

features in the table or any combination of specific selected features such as the three features identified by the Examiner. Thus, the Office Action infers that this general table of features that may be a specific system, may include a specific combination of the recited features, which combination is not disclosed. Applicants' respectfully submit, however, that such a specific system is not disclosed in Table 1.

Paragraph 21 of the Office Action acknowledges that Yimam does not expressly disclose analyzing the linguistic structure of personalizing words in the extract to create a set of verbs for classification, and classifying each isolated verb in the set of verbs according to a predetermined hierarchy. Moreover, with regard to paragraph 22 of the Office Action, Applicants respectfully submit that the various statements from Liddy must be read in the context of the overall disclosure of Liddy. Instead, the Office Action combines them in a way not envisaged or suggested by Liddy.

Thus, Liddy in Columns 4 and 5 refers to general terms to the selection of a subset of documents. Column 9, refers to an analysis which determines the subject of the document (by means of the Subject Field Coder 100). However, the Office Action also refers to Column 13, lines 4 to 9, which in fact relates to the Text Structurer 140 unit as shown in Figure 3. This is an entirely different element from Subject Field Coder 100, and it is therefore improper and inconsistent to combine these portions of the text and to conclude that they imply

analysis of the linguistic structure of the documents. As regards isolating verbs, Column 12, lines 30-35 refers to a Single Term Detector 130. This Single Term Detector is simply looking at a specific word for example a noun, adjective or verb to determine its meaning. Single Term Detector 130 does not take into account the context of the word identified and it is an entirely different analysis unit from the Subject Field Coder 100 and the Text Structurer 140.

With regard to classification into a predetermined conceptual hierarchy, Liddy in Column 12, lines 47 onwards is referring to Text Structurer Unit 140, which operates to assign tags to the text as shown in Table 2. Applicants, however, can discern no predetermined hierarchy, as indicated in the Office Action.

Finally, Paik et al discloses a method of creating user profiles for financial analysis. It extracts metadata from documents that include emails, such as names, concepts and subjects. In addition, Speech Act Theory elements such as creator's intentions, mood and urgency are also constructed. The Speech Act Theory elements are more specifically described in Column 1, page 118, and page 119 – Steps #6 and #7. These elements are employed to assign a tag "priority" to the email being analyzed, and to assign a user preference. However, insofar as Applicants have been able to determine, Paik et al contains no disclosure of the specific integers recited in Claim 2, namely creating the predetermined hierarchy by mapping isolated verbs to an illocutionary verb in a predefined set

of illocutionary verbs, and classifying the mapped isolated verbs according to the Speech Act Theory category of the corresponding illocutionary verb. In particular, there appears to be no reference to mapping of verbs to a predefined set of illocutionary verbs, and no reference to classifying the mapped isolated verbs according to the Speech Act Theory category. These are features of the present invention that enable a specific mechanism for analyzing documents for ranking creators of the documents, which is much more accurate than prior methods. Accordingly, Applicants respectfully submit that Claim 2 is not obvious over the cited combination of Yimam, Liddy and Paik et al. Moreover, Applicants note that Paik et al also does not teach or suggest those features of Claim 1 which are missing in Yimam and Liddy.

The above comments in respect of Claim 2 apply to Claim 3, which defines the further features of: filtering isolated verbs not have a predefined illocutionary verb and thus not successfully mapped to the set of illocutionary verbs; checking for synonyms of the unmapped isolated verbs, that have a predefined illocutionary verb; and classifying the unmapped isolated verbs according to the Speech Act Theory of the corresponding illocutionary verb of its synonym. Applicants have been unable to find any disclosure or suggestion of these features in Paik et al. These features provide a system for analyzing documents that is reliable and robust in practice, and are therefore significant to the present invention.

With regard to the reference in paragraph 37 to Columns 9 and 10 of Liddy, Applicants note that this portion of the text is concerned with the Subject Field Coder, in which each word of a text is assigned a meaning. In contrast, Claim 3 is concerned specifically with classifying verbs to synonymous illocutionary verbs. This follows the overall aim of the invention as expressed on page 4 of the specification, to determine expert rankings based upon a more sophisticated analysis of sentences. A feature of the invention, which distinguishes it from the prior art, is set out on page 4 of the specification, as follows:

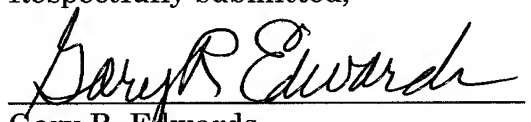
"User expertise may be considered to be action-centered and often distributed in the individual's action-experiences and thus using linguistic modeling action-centered statements in the extracts can be highlighted and thus a more sophisticated analysis of sentences or extracts containing references to a subject in a document can be made, allowing expert rankings to be derived. With this approach, the extracts may be regarded as the realization of involved knowledge, user expertise can be verbalized as a direct indication of user views on discussed subjects, and the levels of expertise are distinguished by taking into account the degree of significance of the words employed in the extracts."

This feature is embodied in Claims 2 and 3, and is not taught or suggested by the references.

In light of the foregoing remarks, this application should be in condition for allowance, and early passage of this case to issue is respectfully requested. If there are any questions regarding this response or the application in general, a telephone call to the undersigned would be appreciated since this should expedite the prosecution of the application for all concerned.

If necessary to effect a timely response, this paper should be considered as a petition for an Extension of Time sufficient to effect a timely response, and please charge any deficiency in fees or credit any overpayments to Deposit Account No. 05-1323 (Docket # 038665.55367US).

Respectfully submitted,



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